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brown to brown. Pronotum brown, the posterior portion becoming yellowish brown in the female. Abdomen dark brown, the venter blackish; connexivum (male) with a yellowish brown spot on the anterior portions of each of the last three abdominal segments and the entire connexivum lighter with more prominent markings in the female.

Described from numerous specimens, collected during the summer of 1918 near Gainesville, Florida. *Type* and *allotype* in my collection. *Paratypes* in the Florida Experiment Station, Museum of the University of Florida and my collection. The eggs are deposited on floating aquatic plants and floating sticks or wood just beneath the surface of the water. The species is predaceous and lives in stagnant water. The macropterous form is unknown. The insect very closely resembles *Velia stagnalis* Burm. from which it may be distinguished by its darker color, the much more prominent tubercles in the pronotum and the much longer antennae. The first antennal segment in *V. watsoni* is much longer than the first antennal segment in *stagnalis*, the first segment in the latter and the second segment in the former being equal in length.

Velia stagnalis Burmeister.

Van Duzee (Cat. Hem. of Amer. North of Mexico) records this species from Pennsylvania, District of Columbia, North Carolina and West Indies. I have two specimens from Sandusky Bay, Lake Erie (collected by V. R. Haber) and four from Rockbridge, Ohio (collected by A. J. Bassinger). The Ohio specimens were collected in stagnant water; they agree perfectly in form and color with a specimen from District of Columbia that Mr. McAtee has kindly presented to me.

ADDITIONS TO THE THYSANOPTERA OF FLORIDA.—V.

J. R. WATSON

A collection of thrips from Mr. A. C. Mason of Miami, contains two new species and a new variety as follows:

57. *Dictyothrips floridensis*, n. sp.

General body color dark brown, legs and antennae light brown. Head and thorax deeply reticulated.

Measurements: Total body length 1.00 mm. Head: length 0.10 mm., width 0.15 mm.; prothorax: length 0.11, width 0.16 mm.; mesothorax: width 0.24 mm.; metathorax: width 0.20 mm.; abdomen: width 0.23 mm.; antennae: segment 1, 24; 2, 40; 3, 50; 4, 40; 5, 48; 6, 58; 7, 16; 8, 24 microns; total length 0.267 mm.

Head 1.5 times as broad as long; cheeks strongly arched, sparsely pilose; front with a median ridge, extending well forward, forming a right angled projection between the antennae. Bristles: two postocular, one in front of each posterior ocellus, and a row of four across the frons in front of the anterior ocellus; all short, but with bright-colored conspicuous bases. *Eyes* very large, occupying ⅔ of both the length and width of the head, markedly bulging, sparsely pilose, facets very large. *Ocelli* very large; the posterior pair situated about the middle of the border of the eyes, anterior facing forward. *Antennae* 2.5 times as long as the head; segments 1 and 2 dark brown, concolorous with the head, and 3 and 4 yellowish brown, others light brown; 2 much wider than the others, 6 longest; sparsely provided with bristles.

Mouth cone short and sharp pointed.

Prothorax about the size of the head, sides convex and roughened with rather large papillae and bearing a few short, recurved bristles. A rather long and stout bristle on each posterior angle.

Mesothorax abruptly widened (the widest part of the insect), sides very convex and set with papillae and short bristles like the prothorax.

Mesothorax much narrower, sides nearly straight, slightly diverging posteriorly. *Legs* long and slender, light brown, distal part of femora and proximal part of tibiae darker; tarsi and distal part of tibiae very light brownish-yellow; provided with numerous slender bristles.

Wings reaching the tip of the abdomen; membrane slender, dark brown, except the extreme base which is clear, and clothed with numerous short hairs. Anterior margin provided with 14 exceedingly long and stout spines with colorless, dilated tips and arising from thickened bases; anterior vein with 11 spines nearly as large; posterior vein with none, scale with two. Veins inconspicuous. Marginal fringe sparse, lacking from the basal half and the extreme tip of costal margin.

Abdomen rather abruptly widened to the third or fourth segment and from there gradually narrowed to the tip. Spines on the posterior segments moderately long.

Described from many females taken on young guava plants in a greenhouse at Miami by Mr. A. C. Mason on June 10. Type in the author's collection.

Male not seen.

Related to *D. reticulata* but differing in many characters.

58. *Cephalothrips elongata*, n. sp.

Head, thorax, and tube dark reddish brown; abdomen, hind and middle legs and fore tibiae and tarsi and antennal segments 2-5 pale yellowish brown. Base of fore femora and antennal segmental, 6, 7 and 8 darker.

Measurements: Total body length 1.9 mm.; Head: length 0.224 mm., width 0.129 mm.; prothorax: length 0.147, width 0.240 mm.; mesothorax: 0.230 mm.; abdomen 0.240 mm.; tube: length 0.114 mm., width at base 0.058 mm., at apex 0.032 mm. Antennae: segment 1, 40; 2, 45; 3, 53; 4, 56; 5, 45; 6, 40; 7, 45; 8, 27 microns; total length 0.33 mm.

Head nearly twice as long as wide; cheeks nearly straight and parallel (converging slightly posteriorly) for the first ⅔ of their length and then slightly constricted. Postocular bristles long and slender but pale, with colorless dilated tips; a small bristle behind each posterior ocellus and another near posterior median corner of each eye. Vortex smooth. *Eyes* medium sized, elongated obliquely inward and backward on dorsal surface, dark, not protruding. *Ocelli* large but pale, posterior ones situated near the middle margin of eye, anterior directed forward. *Antennae* nearly 1.5 times as long as the head. Segments 2-5 quite uniform in size and color, bristles short and colorless, very inconspicuous. *Mouth cone* very short, not reaching the middle of prothorax.

Prothorax triangular, posterior angles rounded and bearing each a pair of stout but short bristles with dilated tips; a similar bristle on each anterior angle and two along each side.

Pterothorax narrower, sides nearly straight, converging posteriorly; bearing a few pale, slender spines. *Legs* long and slender; anterior femora somewhat enlarged; fore tarsi with a rather conspicuous thumb-shaped forward-directed tooth; a few slender colorless bristles near distal end of tibiae. *Wings* short, scarcely reaching the middle of the abdomen, membrane narrow, pale, marginal hairs rather long.

Abdomen remarkably long and slender, more than twice as long as the head and thorax together. Spines on the anterior segments few and colorless but rather long, becoming longer and darker posteriorly.

Described from a single female collected from a Barnacle Scale *(Ceroplastes cerripediformis)* at Miami, Fla., by Mr. A. C. Mason.

Type in the author's collection.

This thrips is easily recognized by its remarkably long light yellowish abdomen.

Among the collection of thrips taken in and around Miami by Mr. A. C. Mason are numerous specimens of a Frankliniella which was identified by Mr. A. C. Morgan as close to *F. Cephalica* (Crawford). It differs, however, from the description of that species in many characters and would seem to merit at least varietal distinction. F. cephalica was described from Mexico and has never been reported from Florida.

59. *Frankliniella cephalica masoni,* n. var.

Differs from the description of the species (Thysanoptera of Mexico and the South II. Pomona College Jl. of Ent. Vol. II, No. 1) in the following characters:

Postocular spines short but heavy, the smaller ones absent. Eyes dark orange red. Ocelli large, pale yellow, bordered with deep orange crescents, situated further forward than in Crawford's figure. Antennal segment 1 and basal half of 2 yellow, concolorous with the head; 5, basal half of 4, and most of 3 grayish, almost colorless; remainder light brown.

Posterior angles of the prothorax not as broadly rounded as in Crawford's figure, the two stout spines sharply recurved. The spines on the anterior angles and those on the anterior margin much shorter. Wing membrane usually extending beyond the tip of the abdomen. Anterior margin with about 25 spines, anterior vein 23, posterior vein 17.

Abdomen short and thick, about half as wide as long.

General color yellow; thorax and tip of abdomen tinged with orange. Abdomen with light brown transverse bands.

Measurements: Head: length .07 mm., width .14 mm.; prothorax: length .10 mm., width .17 mm.; mesothorax, width .24 mm.; abdomen, width .24 mm.; total length .9 mm. Antennae: 1, 15; 2, 53; 3, 53; 4, 51; 5, 36; 6, 48; 7, 9; 8, 8 microns; total length .267 mm.

Like F. cephalica the anterior portion of the head is markedly depressed with two stout spines on the edge of the depression in front of the ocelli. Anterior ocellus directed forward. These characters, the smaller size, and paler color will distinguish it from F. bispinosa which it resembles in general appearance. Like both F. cephalica and bispinosa the second segment of the antenna is extended upward and forward so that it overhangs the 3rd segment and bears two heavy spines on the dorsal surface near the anterior end.

Described from numerous specimens taken from blossoms of *Bidens* sp., wild morning-glory, *Carissa grandiflora,* citrus, mango, avocado, papaya and beans at Miami March-June, 1919, by Mr. Mason, and a single specimen taken by the author from oak at Gainesville, April 20, 1919.

Type in the author's collection. Paratypes in the National Museum.

KEY TO THE AMERICAN SPECIES OF FRANKLINIELLA

(Euthrips in part)

I. Postocular bristles short or wanting; row of bristles along the anterior margin of the prothorax wanting or at least inconspicuous except often the third from the outer angle.

- a. Antennae uniformly brown to dark brown, concolorous with the body; wings light brown, veins prominent; spines brown, 16-22 on fore vein, 13 to 17 on hind, short and comparatively stout, a white longitudinal area near the base of the wing. *F. minuta* (Moulton) '07.
- aa. Antennal segment 3 yellowish, 4 and 5 light grayish-brown, yellowish at the base; wings gray-brown, veins not prominent, spines on the wings normally long and stout, 14 on fore vein, 10 on hind.. *F. fuscus* (Hinds).

II. Postocular bristles conspicuous.

- a. Abdominal sternites with a transversely elliptical pale area. *F. tympanona* Hood ('15).
- aa. Without such pale area.
  - b. Second segment of antennae enlarged on dorsal side on the anterior end (asymetrical in side view) and bearing two heavy spines.
    - c. Vertex of the head depressed and anterior ocellus directed forward.
      - d. Antennal segment 3 a third longer than 2; abdomen slender.
        - e. Body yellow, surface not reticulated. *F. cephalica* (Crawford).
        - ee. Color uniformly brown; surface of body reticulated. *F. cephalica reticulata* (Crawford).
      - dd. Antennal segments 2 and 3 about equal in length; abdomen short; color yellow tinged with orange and brown. *F. cephalica masoni,* n. var.
    - cc. Vertex of the head not markedly depressed; thorax orange; ocellus directed nearly vertically. *F. bispinosus* (Morgan) '13.

bb. Second segment of antennae symmetrical, none of its bristles markedly enlarged.

- c. Thorax tinged with orange.
  - d. General color brownish-yellow, not uniform; thorax orange yellow; antennal segment 1 pale yellow; 2 light brown, base sometimes yellowish..*F. tritici* (Fitch).
  - dd. General color brown to dark brown; thorax orange brown........*F. tritici moultoni* (Hood).
  - ddd. Head pale lemon yellow to light yellowish brown; abdomen brownish yellow to brown; antennal segment 1 whitish to light brown, 2 dark brown.
    - e. Antennal segments 3-5 pale yellow at the base; wings yellowish. *F. tritici occidentalis* (Perande).
    - ee. Antennal segments 3-5 light brown or slightly gray at base; wings brown.
      - f. Antennal segment 5 shorter than 2, 6-8 gray; prothorax more than 1.5 times as long as wide. *F. stylosa* (Hood).
      - ff. Antennal segment 5 as long as 2, segments 6-8 brownish; prothorax less than 1.5 times as long as wide........*F. floridensis* (Morgan).
  - dddd. Color pale yellow; antennal segments 1-5 light yellowish...................................*F. williamsii* Hood.
- cc. Color yellow to brownish yellow, shaded with brown; no orange.
  - d. Costa of wing with 23-30 bristles; fore vein 17-22; hind 13-16.
    - e. Scale with 6 bristles; head nearly as long as wide; antennal segment 2 dark brown; tenth abdominal segment not split open above. *F. helianthi* (Moulton) '11.
    - ee. Scale with 5 bristles; head ¾ as long as wide; antennal segment 2 yellowish gray; tenth abdominal segment split open above.....*F. gossypii* (Morgan) '13.
  - dd. Costa of wing with 15-19 bristles; fore vein 13-16; hind 9-10; scale 5. *F. runneri* (Morgan). ('13.)
- ccc. General color uniformly brown to dark brown, no orange; antennal segments 3-5 light brown to yellow and shaded.

d. Color uniformly dark brown to black; wings brownish gray to dark brown, the basal ¼ to ⅓ clear.

e. Bristles, especially on prothorax and wings, very long and heavy; prothorax considerably longer than head. Large, 1.6 mm. or more.

f. Bases only of middle and hind femora and tibiae clear pale yellow.........*F. annulipes* Hood ('15).

ff. All tarsi and tibiae, and most of fore femora pale lemon yellow. *F. citripes* Hood ('16).

ee. Bristles long but slender; body length about 1.4 mm.; prothorax about as long as head; all tarsi and tibiae lemon yellow.........................*F. auripes* Hood ('15).

eee. Bristles moderate; middle and hind tibiae and femora deep brown; prothorax longer than head. Length about 1.4 mm.....*F. insularis* (Franklin).

dd. Body color yellowish brown, fore wings uniformly shaded with gray...*F. nervosa* (Uzel).

THE BUTTERFLY'S LULLABY

As we lay stretched out on the forest floor at the edge of the hammock feasting our eyes on colors of the sunset sky, along comes a butterfly hunting a safe nocturnal retreat. After trying several leaves, she finally finds one to her taste and settles down on the under side of it. Can one whose day has been so full of activity suddenly cease all motion and sink into the quiet of sleep? No more easily than can an active child. There must be a transition, a gradual letting down of nervous tension. So the butterfly waves her wings up and down, rather rapidly at first but then slower and slower until all motion ceases. Have we not here the essence of a lullaby, a monotonous repetition which gradually becomes slower and slower; a lullaby of motion rather than of sound; a lullaby given by the tired one herself, because there is none other to give it.

"The morning wind forever blows, the poem of creation is uninterrupted; but few are the ears that hear it."—Thoreau.

"Hold thou, my friend, no lesser life in scorn,
All nature is the womb whence man is born."